

Introduction

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision.

In general **Artificial intelligence** (AI) is a broad term that refers to the creation of systems capable of intelligent reasoning and behavior, which frequently incorporate some type of learning mechanism.

AI systems work by ingesting large amounts of labeled training data, analyzing the data for correlations and patterns, and using these patterns to make predictions about future states.

PEAS

They are sometimes called **The setting for intelligent agent design**

- **Performance measures** are all about How well the agent is carrying out a particular assigned task. It is
- **Environment:** It is the task environment of the agent. The agent interacts with its environment. It takes perceptual input from the input and acts on the environment using actuators.
- **Actuators:** These are the means of performing calculated actions on the environment. For a human agent; hands and legs are the actuators.
- **Sensors:** These are the means of taking the input from the environment. Camera ,headsets ,VAR etc

In the following part I have selected two AI systems and I elaborated them according the above setting for PEAS

1.

2. Automated Car

An autonomous car is a vehicle capable of sensing its environment and operating without human involvement. A human passenger is not required to take control of the vehicle at any time, nor is a human passenger required to be present in the vehicle at all.

- **Performance measure**

safety, reach destination, obey laws, comfort...

One of the main activities the car can do is having awareness of the environment where it is destined to get there ,selecting the best cost effective route for the path, communicating with other cars and just respecting traffic laws, keeping safety of users

Inorder to perform the above specified tasks the car should perform a coordinated data exchange between every parts of it where sensors and other data providers exist .check for incoming cars ,check for traffic light information check for weather condition etc

- **Environment**

streets, traffic, pedestrians, weather, customers, . .

It is where the agent acts on

Eg. the car keep moving on road by tracking the path and incommig cars etc

The agent must build a model of the world using the data from its sensors.

Then using inputs from the sensors it constructs a full image of the scenario .

which assisted the car to not to leave the road path see and communicate which other it uses GPS data to keep track the path of the road using the data provided it drawers the path which should be followed

The car has a general map which contains the route to anywhere from the data .
the data tells through what to go to.

- **Actuators**

steer, accelerate, brake, horn, speak/display, . . .

These key components make mobility easier . The car can move and stop by just activating or sending certain commands .When a car wants to move it uses the accelerator and when it wants to stop uses the brake....

- **Sensores**

Video, accelerometers, gauges, engine sensors, keyboard, GPS, . . .

Sensores are special devices which allow the agent to perceive and understand its environment.in the case of autonomous car there are so many sensors embedded inside.some of them are

GPS sensores make it track the path where it supposed to get

Sound sensors are used to estimate the distance of incoming or outcoming cars.

Temperature and heat sensors allow it to keep clients comfort by changing the temperature through different levels etc

2.Cortana

It is Microsoft's personal productivity assistant that helps you save time and focus attention on what matters most. It is an AI-powered virtual assistant that responds to voice commands. It's available as an app in Windows 10 and 11

- **Performance measure**

Recognizing and understanding speech , fast delivery of required service

One of the most important skills cortana should have is the ability to get ,recognize and process voice input . it requires to correctly analyze and interpret the data passed and reply with the required answer.

- **Environment**

Keyboard , voice input

Cortana can interact with both voice and keyboard inputs . by taking the input and understanding and processing the result cortana help to handle daily routine problems

- **Actuator**

Voice reply ,scheduling

This are the ways co

3. Integrated Development Environment(IDE)

text editor is computer software used for editing plain text so that it is correct and free from common Known and runtime errors.

- **performance**

Error detecting , module suggestion, highlighting error ,reflectiveness

The most loving part of a text editor is that they make writing any text or code very easy through simple error showing (i.e line number) debugging capability, easy fix for undetected bugs, readable code or text reduce effort .

- **Environment**

Text file,

Text editor acts on the text file using Ai which allow it to detect and notify an error And also it suggest what to do to prevent befor error happening

- **sensore**

Different modules which contain specificity in file formats and therest

3. Online payment

Online payments refer to the electronic exchange of currency through the internet. These payments usually consist of the transfer of monetary funds from a customer's bank or debit or credit card account, into the seller's bank account, in exchange for products or services.

The system allows users to create an account and perform unlimited transactions with no direct intervention which saves time and energy. It mainly allows users to pay and get paid .

- **Performance**

Security ,efficiency , accuracy ,time it must efficiently cut the manuel banking system

In order to have an effective transaction a secure encrypted connection needs to be established for the transaction.For the online payment process, the seller needs to have access to an online payment gateway. It is a service provider integrated with the credit card and transfers the online payment information between the owner/seller and the payment processor.

- **Environment**

Personal or organizational bank accounts, online currency

Actuators

Navigators enable the transaction between both dealers